

December, and was particularly numerous on the Lower Gascoyne River.

(82.) *DACELO CERVINA* (Fawn-breasted Kingfisher, Pooka).—Plentiful on the Gascoyne and Lyons Rivers, where their loud cackling notes could be heard in the early day and evening. They remain in the shade during the mid-day heat. On 4th October, 1902, I heard their well-known note when crossing the bed of the Minilya River, where they were never previously known to occur. Possibly the fact that small fish are now plentiful in the pools there, as recorded by me in the *Zoologist*, may have something to do with their extending their range. The aborigines' name, Pooka, signifies stinking.

(83.) *HALCYON PYRRHOPYGIUS* (Red-backed Kingfisher).—Fairly common about inland creeks, where their mournful whistle may be heard all day. One specimen shot contained several fair-sized scorpions. This bird was never noted on the coast.

(84.) *HALCYON SANCTUS* (Sacred Kingfisher).—This species was only noted on two occasions, and on the coast, both times in February. Possibly they were migrating.

(85.) *HALCYON SORDIDUS* (Mangrove Kingfisher).—These birds were not uncommon on the coast, especially in the summer months (December to April), and were probably migrating. I did not succeed in finding eggs. Shot a bird on the beach, 15th June, 1900, and saw a pair 1st September, 1901, which was probably breeding in some sandstone cliffs.

(86.) *CUCULUS PALLIDUS* (Pallid Cuckoo).—A common visitor to the coast and inland as soon as winter rains commence. Their peculiar cry may be heard all day, and very often all through the night. Female birds were rarely seen. An immature young one was shot 14th November, 1900.

(87.) *MESOCALUIS OSCULANS* (Black-eared Cuckoo).—A scarce visitor, two specimens only being seen and secured, viz., one on the range near the coast, 19th May, 1898, and one inland, 16th April, 1900.

(88.) *CHALCOCOCCYX BASALIS* (Narrow-billed Bronze-Cuckoo).—A fairly common winter visitor, arriving usually in June, but occasionally seen after summer rains. An egg of this species was found in a nest of the Tricolored Chat (*Ephthianura tricolor*), 4th March, 1898, and another in a nest of the Field-Wren (*Calamanthus campestris*), 1st June, 1887.

(89.) *CENTROPUS PHASIANUS* (Coucal).—A specimen of this bird was shot in thick scrub near a pool at Minilya station in 1887. It occurs sparingly on the Ashburton River.

Description of a New *Gymnorhina*, with Observations on *G. dorsalis*, Campbell.

(With Plates.)

BY ALEX. WM. MILLIGAN

(Honorary Ornithologist, Perth Museum, W.A.)

GYMNORHINA LONGIROSTRIS (Long-billed Magpie), sp. nov.

During the course of a systematic examination of the bird-skins of the Western Australian Museum, Perth, my attention was attracted to five Magpie-skins which had been obtained by

one of the Museum collectors on the Cane and Ashburton Rivers, North-Western Australia, and which bore, at first sight, a striking resemblance to *Gymnorhina tibicen* (Latham) of Eastern Australia, except for their conspicuously long and narrow bills.

A closer examination and comparisons with a pair of mounted specimens of *Gymnorhina tibicen* in the Museum and with recorded scientific descriptions of that species disclosed so many points of difference as to warrant the separation of the Western form, and I therefore declare it a new species. My grounds for separation are briefly as follow :—(a) The Western bird is longer ; (b) its bill is longer, more narrow, less arched, and more triangular-shaped ; (c) its tail is shorter ; (d) its tarsi are shorter ; and (e) the thigh feathers are not black, but wholly white for the upper portion, and noticeably so for the lower. In addition, the plumage generally does not present the striking and decided contrasts of glossy bluish-black and snowy-white that mark the Eastern forms.

In support of the first ground of separation, I find that the measurements of the skins of the two oldest birds of the new species (one from the Cane River and the other from the Ashburton River) are respectively 15.5 and 16.6 inches, while those given by various authorities vary from 15 to 15.75 inches. As regards the second ground, the measurements of the culmen of the same two skins are 2.4 and 2.5 inches and in the three others (all young birds) the measurements of the same organ are 2.25, 2.25, and 2.1 inches, while the recorded measurements of *Gymnorhina tibicen* are given by one trustworthy authority as 2.1 and 2.2 inches, and by another as 2 inches in the male and 1.7 inches in the female. The culmen of each of the mounted specimens in the Museum measures 1.9 inches. The girth of the mandibles taken at the forehead is 2.25 inches in the new species, and 2.5 in the mounted specimens referred to. In the former, too, the arch of the upper mandible is almost inappreciable, and the contour lines of the upper and lower mandibles form together an acute-angled triangle, or nearly so. On the third ground, the tails of the five skins of the Western form measure 5.1, 5.4, 5.5, 5.6, and 5.6 inches, while the authorities mentioned give those of *Gymnorhina tibicen* as 6, 6, 6.5, and 6.8 inches. On the fourth ground, the measurements of the tarsi belonging to the same five skins are 2, 2.1, 2, 2, and 2.1 inches, while the measurements recorded in the British Museum "Catalogue" are given as 2.3 and 2.4 inches. Respecting the fifth ground, the feathers of the upper half of the thighs of the one adult male are pure white, and of the lower half some are white, others white with brownish margins, and others brown with white margins. In a slightly younger bird the upper half is white, as also the whole of the opposed inner sides, while the outer sides of the lower half are blackish-brown with white tips. In all the three young birds the thighs are

almost wholly white or white and grey. The whitish-coloured thighs may therefore be taken to be a constant feature.

The following is a specific description of an adult male of the new species:—

The whole of the plumage (except as hereafter otherwise distinguished) black with a bluish-black sheen; a circular-shaped white patch begins almost at the crown, encompasses the back and sides of neck, and encroaches on the upper mantle; rump, upper tail coverts, and greater part of the upper surface of the tail feathers snow white; vent and greater part of under surface of tail feathers white, the former having a reddish-chocolate tinge; upper half and inner sides of the thighs white, the feathers of the lower half of the outer sides being white with dark brown margins, or brown with white margins, the former predominating; shoulder-patches conspicuously white, and under wing coverts and under tail coverts also white; mandibles deep slaty-blue with blackish points and highly polished; iris hazel; legs and feet black. Depth of terminal black tail-band, $1\frac{1}{2}$ inches; culmen, 2.5; blackish points of same, .9 inch; total length from base of skull to tip of tail 12.25 inches, and from base of skull to point of mandibles (over all) 4.25 inches; diameter of circular neck-patch, 2.25 inches; tail, 5.5 inches; tarsus, 2 inches.

Habitat.—Ashburton River, North-Western Australia.

Type.—In Western Australian Museum, Perth.

In the field notes on the attached labels the birds are described as having been found on open plains and as being rare.

The plumage of the above male shows indications of a moult in progress.

An almost matured male bird from the Cane River (shot three weeks later than the above, and consequently in better plumage, although not possessing the matured garb of the former) has the neck-patch for the lower half clouded with uniformly bluish-grey. The blue of the basal portion of the bill also is not so intense, and shows less polish. Above and contiguous with the white vent in the centre of the abdomen is a narrow, deep chocolate-brown tract. The upper portions of the thighs are intense white, as also the inner sides, the outer sides being blackish-brown, but in transition to white. In a young female from the Ashburton River the whole of the abdomen is whitish, slightly clouded with bluish-grey on the upper portion only; thighs almost white.

I have assigned to the new species the scientific name of *Gymnorhina longirostris* and the vernacular one of the Long-billed Magpie, but am aware that in the latter respect I am appropriating the vernacular name given by Mr. A. J. Campbell to his *Gymnorhina dorsalis*. However, as such vernacular name is not the translated equivalent of his specific name (*dorsalis*), and as the vernacular "Long-billed" is the leading characteristic of the new species, I will ask Mr. Campbell to waive his prior right, and, if I may suggest, substitute the vernacular name of the "Varied-back Magpie," which I venture to think will better indicate one



Head (natural size) of *Gymnorhina longirostris*.



Head (natural size) of *Gymnorhina tibicen*.

FROM PHOTOS. BY C. P. CONIGRAVE.

of the chief characteristics of the adult female and the young of both sexes of *G. dorsalis*.

OBSERVATIONS ON *GYMNORHINA DORSALIS*.

During the systematic examination mentioned I handled some 22 skins of this species, of both sexes, and both adult and young, procured in different parts of the State, and propose to now record the results of my observations. These do not wholly support or confirm the several distinctions made by Mr. Campbell in separating the species from the *Gymnorhina leuconota* (Gould), but nevertheless they must not be taken as challenging the validity of the species (for I consider it a firm one), but as for better information.

Mr. Campbell's distinctions, shortly stated, are as follows:—

(a) Smaller in size than *Gymnorhina leuconota*; (b) bill more narrow and longer; (c) wing edges mottled instead of white; and (d) black terminal tail-band more narrow and concentric.

Dealing with the first distinction, I measured the skins of seven males, in which the measurements in inches from base of skull to tip of tail and from base of skull to point of mandibles (over all) were respectively as follow:— 13×4 , $13\frac{7}{8} \times 4\frac{1}{4}$, $13\frac{1}{4} \times 4\frac{1}{4}$, $13\frac{1}{4} \times 4\frac{1}{4}$, $13\frac{1}{4} \times 4$, $13 \times 4\frac{1}{4}$, $13\frac{7}{8} \times 4\frac{1}{8}$. As I have not similar measurements of a series of *Gymnorhina leuconota*, I am unable to make a comparison, but from a long acquaintance with each in its own habitat I do not hesitate to say that the Western form is a more robust and longer bird. As regards the second point of distinction, Mr. Campbell is undoubtedly correct, for the bill is more narrow and longer. In six of the males referred to the measurements in inches of the culmen were 2.25, 2.4, 2.4, 2.25, 2.4, 2.4, and 2.5. Respecting the third point, I am unable to agree with Mr. Campbell, as in every instance I found the wing edge white, but not mottled. I confirm the fourth distinction, for the terminal tail-band is as a rule more narrow and concentric. The narrowness of the band is, however, purely a matter of age. For instance, in two adult males in full and mature plumage the tail-band measured 1 inch and $\frac{7}{8}$ of an inch respectively, while in another adult bird, who had almost attained full and mature plumage, the same band was $1\frac{1}{4}$ inches, while in three other younger birds the bands were $1\frac{3}{4}$, $1\frac{3}{8}$, and $1\frac{3}{8}$ inches respectively.

Another noteworthy feature in connection with the tails of the Western species is the relative colouring of the stems of the tail feathers. In the two oldest birds mentioned these stems were white to the extent of the white bands, and black to the extent of the terminal black band. In the adult male, which had almost attained full plumage, the stems of the white-coloured portion of the tail were partially black and partially white, and in the younger birds the stems were wholly black for the whole length of the stem.

The same remarks apply with equal force to *Gymnorhina longirostris*, just described. The size of the white vent-patch also

is controlled by age. In the oldest and full-plumaged males the vent patch was much purer in colour, smaller, and less conspicuous than in the younger birds. In the latter the patch encompasses a greater portion of the plumage, and frequently is streaked with a darker colour. Judging from two skins only, the converse (as regards the extent of the patch) appears to exist in *Gymnorhina longirostris*. In the latter species, however, a narrow tract of chocolate-brown above and contiguous to the vent-patch, and absorbing part of the black plumage, indicates the less matured plumage.

In the adult males in full and mature plumage, the black portions of the latter had a bluish-black sheen, thus making a striking contrast with its snow-white portions. It is, perhaps, stating common knowledge to say that the bills of the adult birds showed a high polish, and the colour gradated from whitish at base to blue at point, and that those of the young birds showed a horn colour, with little polish or without polish. In the adult male, which is before mentioned as having almost attained full plumage, the only interruption to the pure white plumage of the upper surface was a few brownish-coloured feathers between the shoulders. The wings and tail also showed a tone of brown, as also the abdomen, which had in addition white and grey margins to the feathers of its lower portion. The vent-patch was not purely white, but only streaked with that colour.

As the skin upon which Mr. Campbell based his specific description of the female of *Gymnorhina dorsalis* proved afterwards to be an immature bird, I append the description of an adult female in full plumage:—Colour generally sheeny, deep blue-black, excepting the hind neck, shoulders, and edges of wing, which are uniform snow-white, and also excepting the mantle, the feathers of which are black, with conspicuous and well-defined snow-white margins. The over-all measurements of the adult female are shorter than those of the male. Adopting the measurement formula before given, I found such measurements in two adult females to be as follows:— $12\frac{1}{4} \times 3\frac{3}{4}$ and $12\frac{1}{4} \times 4$. The culmen also was shorter in length, the measurements of that feature of same skins being $2\frac{1}{8}$ and 2 inches. The depth of the terminal tail-band was proved to be $1\frac{7}{8}$ and $1\frac{3}{4}$ inches. In five young females the same band measured $2\frac{1}{8}$, 2, $2\frac{1}{4}$, $2\frac{3}{4}$, and $2\frac{1}{2}$ inches.

In a young male (I do not refer to a fledgling) the head was brownish-black; nuchal band white, succeeded by another band of greyish-white feathers with black centres; feathers of the back brownish-black with white or grey margins; shoulder edges of wing pure white; bill whitish at base, becoming blue at point. Over-all measurements, $12\frac{1}{2} \times 3\frac{5}{8}$; culmen, 1.9; depth of tail-band, $1\frac{3}{4}$ inches.

In a very young female, shot in the month of July, the head was brownish-black, without sheen; nuchal band dusky white; feathers of upper mantle greyish, with blackish-brown sections; and of lower mantle brownish, with whitish margins; under

surface dingy brownish-black, with greyish-white edgings; bill changing from horn colour to bluish, but without glaze or polish. Over-all measurements, $12\frac{1}{2} \times 4\frac{1}{4}$; tail-band, $2\frac{1}{8}$; culmen, 2.25 inches. In another, but slightly older bird, of the same sex, the dark-coloured plumage showed a sheen, except on the lower abdomen, which was brown. The vent feathers were long and brownish, with white ends; wing edges mottled. Over-all measurements, $13 \times 4\frac{1}{4}$; tail band, 2; culmen, 2.25 inches. In a third young female the mantle feathers were deep black, with sparse and indistinct white edgings, producing a spotted appearance, and the feathers of the rump were black with white edgings, producing a barred appearance. Over-all measurements, $12 \times 3\frac{5}{8}$; tail-band, $2\frac{3}{4}$; culmen, 2 inches. In a fourth young bird of the same sex the head was brownish-black, with white edgings, irregularly disposed; under surface dingy blackish brown. Over-all measurements, $12\frac{3}{8} \times 4$; tail-band, $2\frac{1}{2}$; culmen, $1\frac{7}{8}$ inches.

The measurements of the tails of all birds varied from 5.75 to 6.6 inches. It is perhaps worthy of remark that in many instances the tails of the young birds exceeded in length those of fully matured ones.

As the dates of capture have only in one or two instances been inscribed on the labels attached to the skins, I regret to say that I have been unable to trace the several colour changes (for such I am convinced occur) of the first year, and the subsequent feather changes, and, perhaps, colour changes. Whilst on the subject of feather-change I must mention an instance of an unseasonal moult in an adult male shot in the vicinity of Perth in the month of January. The feathers of the head and neck had (probably the result of some misadventure) been lost, and those portions showed new feathers encased in sheaths appearing on the otherwise nude surfaces. The ordinary moult would take place in June or July.

From the foregoing observations, and from the result of examination not here recorded, and from field notes and observations of birds in captivity, I deduce the following as characteristic of an adult male and female in full and mature plumage:—

Male.—(1) Colour dispositions sheeny blue-black and snow-white, sharply contrasting and uniform; (2) wing edges pure white, not mottled; (3) stems of feathers of white and black portions of tail correspondingly and relatively white and black; (4) terminal black tail-band not exceeding 1 inch; (5) vent-patch pure white, small, and inconspicuous; (6) mandibles polished pale blue for basal half, deep blue distal half.

Female.—(1) Similar to male, except mantle, which is black, with conspicuous and well-defined white edgings to feathers; (2) similar to male; (3) stems of feathers wholly black; (4) terminal black band exceeds 1 inch; (5) and (6) similar to male.

In well-advanced females of the first year the white band and almost black band are the distinguishing characteristics.

The species enjoys a very extensive range, although on my own personal observations, as well as from authenticated records, I cannot yet admit the extent of range mentioned or suggested by Mr. Campbell in his work on "The Nests and Eggs of Australian Birds," page 296. (But it is just possible that his more northerly range may turn out to be occupied by my new species.) The farthest limits, so far as I have observed or have records of, are as follow :—

Southern	..	Cape Naturaliste, distant 150 miles from Perth
South-Eastern		Stirling Range, distant 274 miles from Perth
Eastern	..	Kellerberrin, distant 133 miles from Perth
North-Eastern		Jack's Well (Lake Way), distant 815 miles from Perth
Northern	..	Moore River, distant 79 miles from Perth

I believe, however, that the above limits will in time require to be enlarged, more especially in the North. The birds are dwellers of the woodlands and open country and appear to shun the forests. In the south of this State the karri forests appear to act as the line of demarcation.

Descriptions of the Nests and Nestlings of Certain *Acanthizæ.*

BY ALEX. WM. MILLIGAN

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ACANTHIZA ROBUSTIROSTRIS (Milligan), (Thick-billed Tit).

Nest.—In considering this species previously to describing it,* it appeared to approach nearer to *Scricornis* (*Pyrrholæmus*) *brunnea* (Gould) than any other member of its genus, by reason of its sombre upper surface and its bill. In the latter respect and in its general contour it looks like that species in miniature. The nest (which Mr. Fred. Lawson only discovered after hours of patient and vigilant search) supports in a degree my early impressions. The structure itself is globular in form, but with the upper portion elongated and gathered to a point at the top. The same portion also is very fragile, and upon its being held up at the height of the eyes daylight may easily be seen through it. The lower portion is of a stronger and closer structure. The nest, in size, form, and materials, very much resembles that of *Malurus leucopterus*, except that the lipped threshold present in the latter is wanting in the former. The materials of which the nest is composed are old stems of grasses, with which are interwoven a few spiders' webs, the latter still bearing the body cases of devoured insect prey. The outside of the lower portion of the nest is profusely adorned with spider cocoons and with what

* *The Emu*, vol. iii., p. 71.